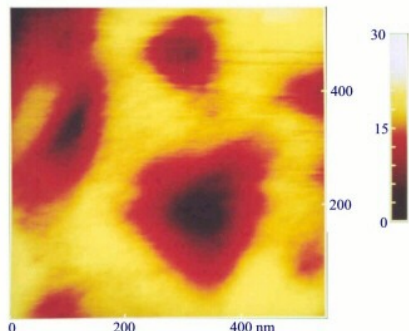


AFM Determination of Radiation Exposure



Gamma ray damage
in a crystal of RDX
explosive



Objective

To investigate nanometer surface damage in materials exposed to ionizing radiation

Approach

Atomic Force Microscopy (AFM) is used to directly image the changes in material surface morphology (subtle radiation damage). This exploits the ability of many natural and manmade materials to function as serendipitous permanently-recording radiation dosimeters.

Payoff

- To be able to determine which individuals, vehicles, shipping containers, locations, etc. may have ever handled nuclear materials
- Serendipitous radiation dosimetry (without dosimeters)
- More reliable and lower cost dosimeters

Principal Investigator

NSWC CD

Progress